Development of a competency-based curriculum in the active management of the third stage of labor for skilled birth attendants

DNP Final Project

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Abstract

Introduction: The purpose of this paper is to present the process used to develop and validate a specific component of a competency-based educational curriculum for skilled birth attendants (SBAs). The proposed curriculum is structured using Lenburg's (1999) Competency Outcomes and Performance Assessment (COPA) model. The two objectives of the project are: (1) develop and validate specific competency objectives for the active management of third stage of labor (AMTSL) and (2) develop and validate the most effective outcome statements that integrate those competencies.

Project Design: The pilot curriculum development project focused on AMSTL using an established curriculum development model. AMSTL was chosen for the pilot project because AMSTL is a skill globally recognized and required of SBAs for the reduction of postpartum hemorrhage. The pilot curriculum development project incorporates a content validity assessment completed by expert panel review.

Results: There was consensus between the reviewers indicating that the pilot curriculum reflected all of the essential competencies required for AMSTL and the competency statements and critical elements were written effectively. The narrative responses from the expert panel were analyzed for applicability, curriculum revision suggestions, recurring themes, and expert insights.

Discussion: The COPA model is valuable as a curriculum development model for SBAs. The model directs the curriculum to explore and include aspects of real world practice that may otherwise be overlooked. Development of a competency-based curriculum in the active management of the third stage of labor for skilled birth attendants

Chapter One: Nature of the Project

Introduction to the Project

The global health community has recognized that the presence of skilled attendants at birth (SBA) is associated with a decreased risk of maternal mortality. According to the internationally accepted definition, a skilled birth attendant (SBA) is 1) an accredited health professional (such as a midwife, doctor or nurse) and 2) educated and trained to proficiency in core midwifery skills. This definition excludes traditional birth attendants and other lay health workers. A SBA must possess the knowledge and skills to manage uncomplicated pregnancies, childbirth and the immediate postpartum period, including identification, management and referral of complications in women and newborns (World Health Organization, 2004). SBAs perform an essential and often life saving role within the continuum of maternal and newborn care. The proportion of births attended by a SBA is used as a primary indicator for assessment of maternal health especially in developing countries, where increasing attendance by SBAs is associated with decreasing maternal mortality (WHO, 2004).

It has been suggested that there is a wide gap between current evidence-based standards and the competence of SBAs to manage selected obstetric and neonatal complications (Harvey, et al., 2007). In addition, a paradox can be discovered when reviewing the current WHO Global Health Observatory data set related to SBAs (WHO, 2009). Several countries report a high utilization of SBAs that does not correlate with low maternal mortality. For example, South Africa reports greater than 90% SBA utilization yet has a maternal mortality ratio well exceeding 100:100,000. High maternal mortality with high utilization of SBAs may indicate a need for greater competence within the SBA community.

There is consensus in the global health community regarding the core skills and abilities of SBAs. The joint statement on SBAs by the World Health Organization, International

Confederation of Midwives, and the International Federation of Obstetricians Gynecologists (WHO, 2004) lists the core skills and abilities required of SBAs. The joint statement is widely referred to in the global health literature and it has been suggested that the list of core skills should form the basis for development of SBA training (Adegoke & van den Broek, 2009). Currently, there is no evidence in the literature of a competency-based curriculum for the education of SBAs.

Purpose

The purpose of this paper is to present the process used to develop and validate a specific component of a competency-based educational curriculum for SBAs. The proposed curriculum is structured using Lenburg's (1999) Competency Outcomes and Performance Assessment (COPA) model. Redman, Lenburg and Walker (1999) contend that traditional methods of teaching and assessment need to be restructured to more outcomes oriented methods that are consistent with contemporary practice needs, and that a defensible and cohesive conceptual framework should be used as a foundation. The World Health Organization, the International Confederation of Midwives and the International Federation of Obstetricians and Gynecologist has provided the core skills and competencies for SBAs that can be used in the development of such a curriculum. (WHO, 2004). The scope of this pilot project is to develop the curriculum for the active management of the third stage of labor (AMTSL). AMSTL consists of three specific interventions: administration of a uterotonic medication after delivery of the baby, facilitation of placental delivery by controlled cord traction, and uterine massage after placental delivery (Leduc, Senekas, & LaLonde, 2010). AMSTL has been shown to significantly reduce postpartum hemorrhage, which is the primary cause of maternal death throughout the world (United Nations, 2010). The list of core skills and abilities for SBAs includes AMTSL (WHO, 2004).

Significance of the Project to Nursing and Healthcare

In order to make a lifesaving impact in maternal health, SBAs need to be educated to proficiency in the essentials of AMTSL. The pilot curriculum developed using the COPA model has unambiguous and SBA competency expectations. When combined with effective teaching methods and reliable, valid evaluation methods, this pilot curriculum may be integrated into existing educational plans or used as a continuing educational module for preparation of SBAs.

This pilot AMSTL curriculum will serve as a model for future comprehensive curriculum development to educate SBAs. The availability of a competency-based curriculum will significantly contribute to the resources available for educating SBAs. A competency-based curriculum for the education of SBAs needs to be developed.

Project Objectives

There are two objectives of the project based on the Competency Outcomes and Performance Assessment model (Lenburg, Klein, Abdur-Rahman, Spencer, & Boyer, 2009). The two objectives are: (1) develop and validate specific competency objectives for the active management of third stage of labor and (2) develop and validate the most effective outcome statements that integrate those competencies.

Chapter Two: Review of Literature

Theoretical Framework

Competency-based education is a teaching / learning approach that focuses primarily on identifying and measuring specific learning outcomes (competencies) that are required for real world practice. The Competency Outcome, Performance Assessment (COPA) model first described in 1999 (Lenburg, 1999) and recently updated (Lenburg, et al., 2009) is a theoretical model for curriculum development in competency-based education. The major concepts developed in Lenburg's work are: 1) essential competencies and learning outcomes as directly driven by contemporary practice, 2) critical indicators as essential behavioral components of the essential competencies, 3) effective learning styles and 4) assessment methods related to the critical elements (Lenburg, 1999) This framework has been used to drive curriculum development in nursing education, continuing education and health care programs for patients (Anema & McCoy, 2010).

The first step in curriculum development when using the COPA model is to identify the expectations for actual practice that relate to each of eight "universal" core competency areas (Lenburg et al., 2009). These eight universal core competency areas are: (1) assessment and intervention skills, (2) communication skills, (3) critical thinking skills, (4) human caring and relationship skills, (5) teaching skills, (6) management skills, (7) leadership skills and (8) knowledge integration. Lenburg et al. (2009) asserts that omission of any competency area deprives the learner of the opportunity to acquire valuable skills. Expectations for practice competencies can be identified by analyzing the current practice environment (Lenburg, 1999) or by utilizing competencies identified by regulatory organizations and agencies, professional groups and employers (Anema & McCoy, 2010).

The second step of curriculum development using Lenburg's (1999) COPA model is to create effectively written "Competency Outcome Statements". Competency outcome statements are created by taking the core competencies identified in step one, and writing them in a style that clearly indicates the expectations for practice outcomes. The statements are written using action verbs and the language of actual clinical practice (Lenburg, et al., 2009).

The third and fourth steps of Lenburg's (1999) COPA model, not addressed in this project, relate to interactive, practice focused learning methods and competency performance examinations and assessments. A visual interpretation of Lenburg's COPA model and associated curriculum development activities is presented in Figure 1.

Figure 1. Lenburg's COPA Model and Associated Curriculum Development Activities

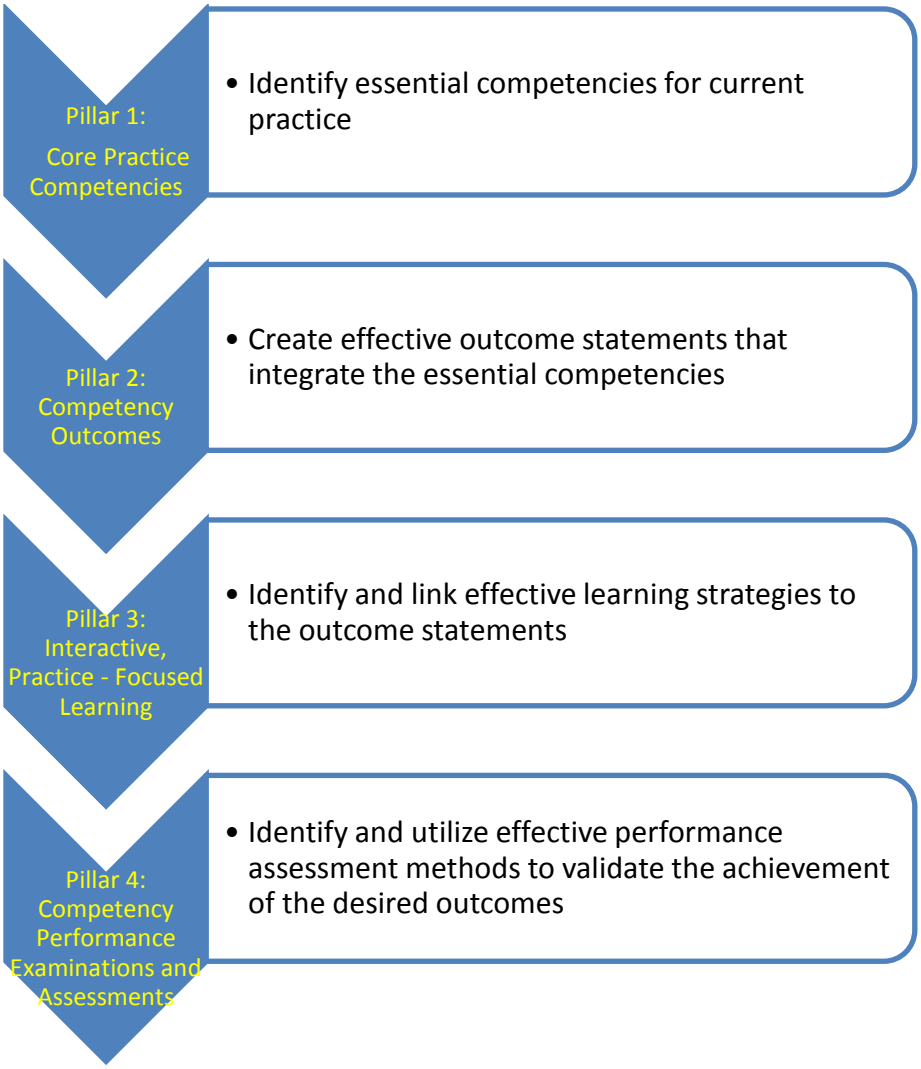

Figure 1. Visual representation of Lenburg's COPA model. Each pillar is associated with a specific curriculum development activity. Based on Lenburg (1999) and Lenburg et al. (2009).

Related Research

The concept of "skilled birth attendant" has been embraced by many in global health circles over the last decade in. In 2002, the WHO published *Global Action for skilled attendants for pregnant women* that presented an action plan calling for the creation of a joint statement on SBAs between the WHO, the International Federation of Obstetricians and Gynecologist (FIGO)

and the International Confederation of Midwives (ICM). The collaboration resulting from this call to action resulted in the publication of *Making pregnancy safer: The critical role of the skilled attendant*, a consensus statement by the WHO. FIGO and ICM that refines the definition of a SBA and lists the skills and abilities required in the role. The ICM *Essential competencies for basic midwifery practice*.(2002) was used as a guiding document by the collaborative to create the list of skills and abilities (See Appendix A for a complete list).

Literature related to maternal mortality and utilization of skilled attendants abounds but research related to curriculum development or training of SBAs is less abundant. Searches on Pub-med and Ovid identified no information on curriculum development in relation to the WHO, ICM, FIGO joint statement definition and the list of core skills and abilities. One study compared existing curriculum used in training SBAs in Mexico to the ICM essential competencies for midwifery practice which parallels the WHO/ICM/FIGO list of core skills and abilities (Cragin, DeMaria, Camero, & Walker, 2007). Gaps were discovered between the curriculums in use and the ICM essentials in the three programs reviewed, however, curriculum development was not discussed. Research conducted in Bangladesh evaluated a skilled attendant training program for medical assistants, female health assistants and family welfare assistants who may not meet the formal definition of SBA as set forth by the WHO/ICM/FIGO joint statement (Bhuiyan, Mukherjee, Acharya, Haider, & Begum, 2005). The curriculum development process for this pilot training program was not discussed

Harvey et al. (2007) examined the competencies of skilled providers in several different countries. The study used instruments translated from English into Spanish and French, French being a second language for participants in two of the five countries (Harvey et al., 2007). The assessment process used in the study consisted of multiple choice exams coupled with case

studies and skills assessment using anatomical models. The study revealed a wide gap between evidence-based standards of practice and provider competencies including in AMTSL. The validated assessment instruments and evaluation plans developed by Harvey et al. (2007) may be used in future for assessment components within a competency-based curriculum.

Carlough and McCall (2005), focused on training lay women in midwifery skills over a 15 week period. A consensus definition of SBAs had not yet been developed at the time of the research. While they reported positive results for graduates of their training program in respect to the indicators for which they were testing, these indicators did not include most of the required skills and abilities currently recommended by WHO, ICM, FIGO (2004) as core skills for a SBA. Again curriculum development for the training was not discussed.

In summary, the WHO, in collaboration with ICM and FIGO, has developed a globally accepted list of skills required for a SBA (WHO, 2004). There has been some research on measuring the skills of SBAs but a competency-based curriculum has not been developed.

Chapter Three: Methods

Project Design

This pilot curriculum development project focuses on active management of the third stage of labor (AMSTL) using an established curriculum development model. AMSTL was chosen for this pilot project because it is included in the list of required skills and abilities for SBAs in the consensus document (WHO, 2004) and because of its' significance to global maternal health; the use of AMTSL has been shown to significantly reduce postpartum hemorrhage, which is the primary cause of maternal death in developing countries (United Nations, 2010). The curriculum development project was observational and descriptive, incorporating a content validity assessment completed by expert panel review.

Sample

The expert panel for the content validity assessment was composed of three reviewers, each with over ten years experience in international maternal health and midwifery education. Two participants were educated as certified nurse midwives in the United States, first achieving a bachelor of science in nursing followed by advanced education in midwifery. One of the US midwives holds a master's degree in nursing and second master's degree in public health. The second US midwife holds a master's degree in community health and specialty certification in midwifery. The third reviewer is a Canadian midwife, educated with a bachelor of midwifery and holding a masters degree in bioethics. All the reviewers have been involved in teaching and curriculum development for midwifery or nursing education at the university level. Each reviewer has been involved in non-university based midwifery training programs in developing countries. In addition, each reviewer is familiar with the concepts and expectations for SBAs as defined by the WHO, FIGO, ICM consensus document. One reviewer is currently in full time

clinical practice in the United States and is founder and director of a nonprofit organization educating nurses as SBAs in Haiti. Another reviewer is now the "in country" director of this education program and intimately involved with curriculum development and training. The third reviewer is the "in country" technical director and regional advisor for a high level nongovernmental organization with one focus being on improving performance of family planning and maternal health service providers and educators. All the reviewers are known professionally by this author.

Process

Step one: Identification of the essential competencies required for practice that reflect each of the eight core competency areas (Lenburg, 1999).

The current practice environment for SBAs was analyzed through review of literature, examination of core documents created by professional groups related to SBAs and reflection on real life clinical practice as experienced by this author during experiences working with SBAs and AMTSL in the clinical setting. The analysis of current SBA practice led to the identification of essential competencies for each of eight core competency areas for the pilot AMSTL curriculum.

Making pregnancy safer: The critical role of the skilled attendant, the consensus document from the WHO, ICM, and FIGO (WHO, 2004), along with The ICM *Essential Competencies for Basic Midwifery Practice* (ICM, 2002) were identified as core documents related to current SBA practice. The WHO, ICM, FIGO consensus document defines AMTSL as an essential competency for SBAs (See Appendix A for complete list).

The ICM *Essential competencies for basic midwifery practice* (ICM, 2002) were used as the secondary resource to support seven of the eight identified core competencies of the pilot

curriculum. The ICM essentials was chosen as the secondary supportive document due to the close ties between the consensus document (WHO, 2004) and the ICM essential competencies for midwifery practice (ICM, 2002). The consensus document identifies the SBA skills as "core midwifery skills". The ICM essentials are currently undergoing a revision and updated essentials will be released after the tri-annual ICM meeting in the summer of 2011.

Step 2: Creation of effective competency outcome statements for the essential competencies (Lenburg, et al., 2009).

Identification of essential core practice competencies for the pilot curriculum was followed by re-wording the core competencies as specific "competency outcome statements". Competency outcome statements, the "CO" in COPA, are clearly worded statements that describe the expectations for real clinical practice (Lenburg et al., 2009). These statements delineate what the practitioner must actually be able to do at the completion of the course and typically follow a common stem such as "Upon completion of the course, the student will be able to….". The author created competency outcome statements for the essential competencies identified in step one of the pilot curriculum development. The competency outcome statements created by the author for the pilot curriculum are presented in Appendix B.

Inherent within competency outcomes are critical elements. Critical elements are the discrete, observable behaviors that are mandatory to achieve the desired competency outcome (Lenburg, 1999). Critical elements in this pilot curriculum were derived from current evidence for best practice for AMTSL. AMSTL competency outcome statements, their associated critical elements and supportive documentation are located in Appendix C.

A revised version of Bloom's Taxonomy (Anderson & Krathwohl, 2000) was used as a resource for writing unambiguous competency outcome statements and critical elements.

Step 3:Assessment of content validity.

Curriculum content validity is concerned with the completeness and accuracy (validity) of the curriculum content and with the appropriateness of the curriculum for an identified set of learners. A content validity assessment of the pilot curriculum was indicated by the need to determine 1) the extent to which components of the pilot curriculum were reflective of contemporary practice of AMTSL and 2) the effectiveness of the wording of the competency statements and critical elements. The content validity index (CVI) is based on expert ratings of relevance and has been recommended as an appropriate indicator of content validity for multi-item scales (Polit, Beck & Owen, 2007). The CVI is used in this project in conjunction with yes / no and narrative feedback to determine the content validity of the pilot curriculum.

The content validity assessment for the pilot curriculum components was conducted utilizing an expert panel of three clinicians. Each reviewer was provided a copy of the proposed curriculum components and instructions by email. Based on the COPA model (Lenburg, 1999), two questions directed the review:

1. Do the outcome competency statements and critical elements reflect all of the essential competencies required for AMTSL?
2. Are the competency statements and critical elements written to most effectively articulate performance expectations?

The AMSTL curriculum was presented to the reviewers in a Microsoft Word electronic document that allowed the reviewer to download and complete the form without printing it. The document allowed for structured and unstructured feedback. Structured feedback was elicited through a “click and choose” feature. Provision of an area for comments allowed for unstructured feedback. The completed forms were returned to the author by email.

The Office of Responsible Research Practices of the Ohio State University determined that this curriculum development project qualified as being exempt from Institutional Review Board review.

Instrument

The AMTSL curriculum was organized into twelve sections and presented in a Microsoft Word 2007 document. Sections were determined by naturally occurring breaks in the curriculum and by dividing two especially lengthy areas of curriculum into smaller sections for reviewer convenience. A feedback template structured on the two review questions was inserted at the end of each section. The "Option Buttons" feature within Word was utilized to allow the reviewer to choose one of a predefined set of options. The choice of yes or no was provided for question one. A standardly-used four point scale for content validity assessment was provided for responses to question two, that included the response options of "Not at all", "Somewhat", "Moderately" or "Completely". Expanding text boxes for comments were provided with each feedback template.

Data analysis

The analysis of the completed reviews was directed by the two project objectives that were presented as questions in the data collection instrument. Data were analyzed for each individual question and also across all questions. The 'yes' or 'no' responses were tabulated and compared using a simple ratio of 'yes' to 'no' responses. The four point scale responses were assigned a numerical value : 1= 'not at all', 2= 'somewhat', 3= 'moderately', 4= 'completely'. The four point scale responses were analyzed for responses less than 3 or 4. Using an universal agreement (UA) scale-level content validity index (S-CVI), agreement (S-CVI/UA) was defined as the percentage of all reviewers choosing responses 3 or 4.

Qualitative data were analyzed for applicability, curriculum revision suggestions, recurring themes, and expert insights. Two of the three reviewers submitted qualitative data outside of the standardized feedback format; one used the "track changes" feature of Microsoft Word and one sent comment by email. These data were grouped with their associated curriculum sections and analyzed accordingly.

Chapter Four: Findings

Results

The reviewers were guided in their feedback on each of the twelve sections by the two questions described in the COPA model (Lenburg, 1999):

Question 1: Do the outcome competency statements and critical elements reflect all of the essential competencies required for AMTSL?

Two reviewers completed all twelve of the structured yes or no response templates. One reviewer did not complete one of the twelve response templates, possibly due to the reviewer simply missing that response or to user error in using the click and choose feature. There was consensus between the reviewers indicating that the content reflected all of the essential competencies required for AMSTL. The reviewers offered no unstructured comments for question one

Question 2: Are the competency statements and critical elements written to most effectively articulate performance expectations?

The three reviewers completed all twelve of the structured four point scales related to question two. There was consensus among reviewers that the competency statements and critical elements were written effectively. There were no "not at all" or somewhat" responses. . The percentage of responses of "moderately," or ",completely", across all pilot curriculum sections for question 2 was 100% (S-CVI/UA=1.0). Figure 2 describes the percentages of "completely" and "moderately" responses to each of the twelve items associated with Question 2.

Figure 2. Graph of responses to question 2.

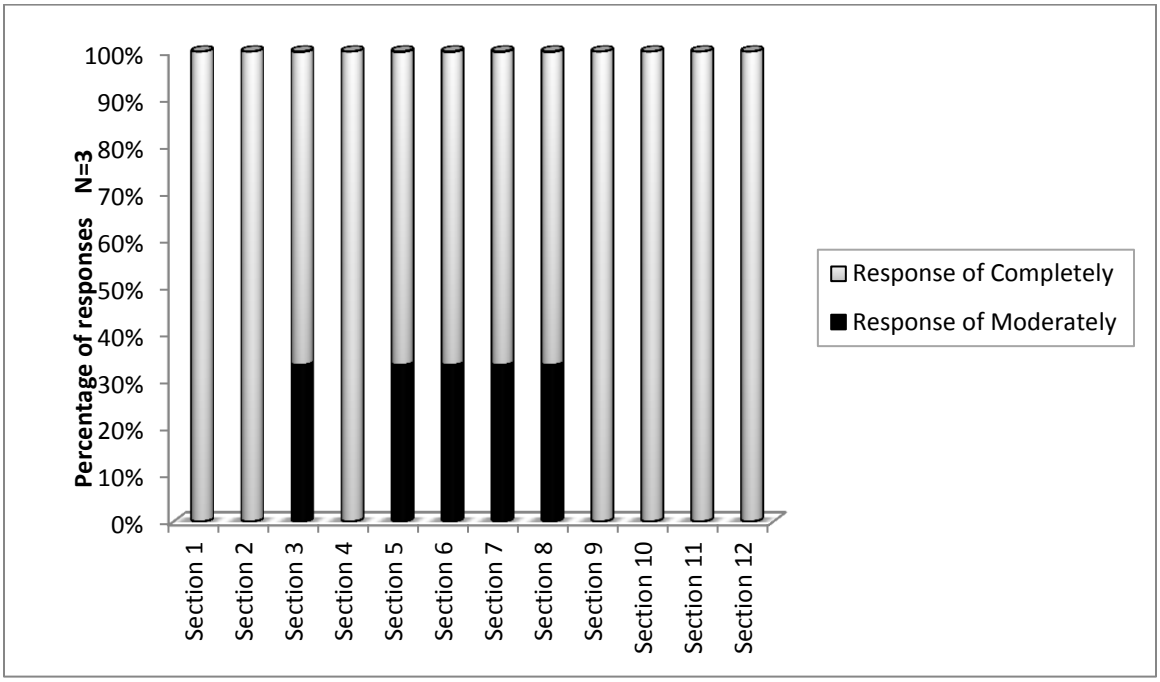

Figure 2: Percentages of completely and moderately responses to Question 2: Are the competency statements and critical elements written to most effectively articulate performance expectations?

The reviewers submitted sixteen narrative responses. There were narrative responses associated with eleven of the twelve pilot curriculum sections. The final comments template was not filled out by any reviewer; however, final comments were submitted by one reviewer via email.

The narrative responses were analyzed for applicability, curriculum revision suggestions, recurring themes, and expert insights. Three comments were determined to be not applicable: two offered suggestions that were already included in the pilot curriculum, one suggestion for curriculum revision was not evidence based. Suggestions for curriculum revision related to increasing the clarity of critical element wording and one identified spelling error. Two recurring themes were identified: reviewer concern regarding uterine fundal

pressure/manipulation of the uterus and reviewer confusion over learner characteristics/ learning prerequisites.

Expert insights were identified based on narrative comments. One reviewer submitted the comment: " It was helpful to see that the critical elements of incorporating and implementing the practice follow so that correct injection technique, timing, etc is not assumed". The same reviewer offered the following final comment: " If we do every component of what we teach in that much detail we will have volumes to write but if we took each SBA core ability and used that format…it would make a very credible package.". The third expert insight was related to Competency Outcome Statement #:7: Integrate concepts of AMSTL into prenatal patient teaching plan. The reviewer commented: "I love this section. It has nursing written all over it and is totally unrealistic. We can't even get midwives to take blood pressures or talk to the woman period! Much less tell them about AMTSL." Appendix E presents a summary of the comments submitted by the expert review panel and the analysis of the qualitative data.

Discussion.

Content validity is extremely important in a competency-based curriculum for health care providers. Excluding or incompletely detailing an essential competency would result in learning outcomes that could be reflected in less than optimal patient care, while inclusion of competencies irrelevant to quality clinical practice or which were otherwise not accurate might contribute to learner overload or misunderstanding of key content. Identification of all the essential competencies of AMTSL using the COPA model is a complex undertaking requiring examination of clinical practice from a variety of perspectives. The results of the content validity assessment suggest that the COPA model facilitates inclusion of all elements required for clinical practice. However, the reviewer comments support current opinion (Anema &

McCoy, 2010; Lenburg, et al., 2009), that the principle problem of this type of curriculum design is articulating the critical elements clearly. Of the sixteen reviewer comments, nearly half related to clarifying the wording of the critical elements.

Subtle and complex relationships between skills, knowledge and successful integration of AMTSL in the real life practice setting become apparent through the use of the COPA model for curriculum development. Compared to a traditional education module that might teach AMTSL as three discrete technical interventions (administration of a uterotonic medication, controlled cord traction, and uterine massage), the COPA model directed the curriculum development to consider all the core practice competency areas as inherently necessary for real world practice. Leadership skills, for example, would not typically be included in a traditional AMTSL education module; however, there may be a relationship between leadership, one of the eight COPA core practice competencies, and successful integration of AMTSL into practice. Oladapo et al. (2009) found that colleagues are the primary information source about active management of third stage among obstetric providers surveyed. It follows that incorporating the leadership qualities that allow a practitioner to be able to support and explain AMTSL to colleagues might increase the utilization of AMTSL.

Another nontraditional curriculum component was revealed by exploring the COPA model core competency "Human caring and relationship skills" and it's relationship to AMTSL. Childbirth is a time of particular vulnerability for women and emerging research reveals that women may routinely suffer from many forms of human rights abuse (including non-consented care and verbal abuse) during facility based childbirth, especially in developing countries (Bowser & Hill, 2010). By including competency outcome expectations related to working in partnership with women, sharing information and obtaining consent from a patient during

AMTSL, the practitioner is expected to adopt and model respectful and compassionate behavior that goes beyond the specific clinical intervention associated with AMTSL. Moving away from traditional approaches and incorporating curriculum components from the COPA model's eight core competency areas, as described in these examples, represents a holistic approach to curriculum development that reflects true quality patient care.

The pilot curriculum developed in this project focused on AMTSL, however, a comprehensive curriculum for the complete education of SBAs structured in the COPA model could be created. A complete curriculum developed on the model would allow multiple opportunities for reinforcement of important concepts. Curriculum structure would allow for organizing the curriculum by core competency area (assessment and intervention skills, knowledge integration, communication skills etc.) as well by specific practice essentials (AMTSL, antenatal care, emergency obstetrics). For example, participants would learn leadership skills as they occur within the context of antenatal care as well as having a specific leadership course that reviews all the leadership concepts and requirements from across the entire program. This would allow a variety of learning and evaluation methods and repetition to assure that the skills required are learned to proficiency

This pilot curriculum does not incorporate teaching or evaluation methods; however, it becomes obvious that each competency outcome statement and critical element could be paired with well-researched teaching and evaluation methods. "Toolboxes" such as that developed by the Accreditation Council for Graduate Medical Education (ACGME) and current clinical education research could be used as resources in this process.

Further work is required to incorporate reviewer suggestions into revision of the pilot AMSTL curriculum and to re-evaluate the content validity of the revised sections. In order to

fully exemplify the COPA model, the pilot curriculum requires completion of the last two steps of the model; 1) linking the outcome statements and critical elements to the most effective learning strategies and 2) identification and utilization of competency performance examinations and assessments. Finally, integration of the revised pilot curriculum into a real world "in country" training program offers an opportunity for further exploration of the model and for future research

Chapter Five

Conclusions

AMTSL is a life saving intervention that is required of all SBAs. The COPA model is a valuable tool for the development of curriculum in AMTSL. The model takes into account the complexities of real world practice environment and lends itself well to the use of supporting documentation to promote evidence-based practice for each component of practice.

Limitations

Developing curriculum using the COPA model is time intensive and requires exploration of aspects of the desired competencies that are not at first readily apparent. Some educators may view such competency-based education as reductionist and prescriptive (Anema & McCoy, 2010). The wording of clear and explicit competency outcomes statements and critical elements can be challenging as revealed by the expert reviewers comments. Clarifying existing learner characteristics and learning prerequisites is not explicitly included as a step in the COPA model, however, it is critical in the development of pilot curriculum as evidenced by the narrative comments.

Content validity for this pilot curriculum was established using an expert panel of three reviewers who were known to the author. A limitation may exist in using the click and choose feature with the yes/no and four point scale with reviewers that are well known to the author. Even though there was consensus in supporting the curriculum elements as being all inclusive and well written, the narrative comments indicated that the reviewers did have questions, especially regarding clarity in the wording of the competency outcome statements. The reviewers may have been hesitant to choose what seemed to be a negative “click and choose” response and were, perhaps, more comfortable submitting written comments. The small number

of reviewers may also be a limitation as Polit et al., (2007) recommend a large panel of 8-12 experts especially when initially validating content. However, the high level of consensus of the reviewers about the key content that was included is encouraging for moving forward to next curriculum development and refinement steps based on this pilot project

Summary

The COPA model (Lenburg,1999, Lenburg et al., 2009) is used to develop a curriculum in AMTSL for SBAs. Competency outcomes expectations for AMTSL were identified and written based on Lenburg's eight core practice competencies. The outcome statements were divided into discrete observable critical elements based on evidence-based practice. A content validity assessment was conducted using an expert review panel.

The COPA model seems valuable as a curriculum development model because the focus on the eight core competency areas directs the curriculum to include aspects of real world practice that might be otherwise overlooked.

Implications for practice.

SBAs need to be educated to proficiency in the essentials of AMTSL. The pilot curriculum developed using the COPA model has unambiguous and evidence-based competency expectations. When combined with effective teaching methods and reliable, valid evaluation methods, this pilot curriculum has the potential to be integrated into existing educational plans or used as a continuing educational module for SBAs. While further work is needed, the pilot curriculum is a first step in well-supported approach to preparation of skilled providers who will have the potential to truly impact maternal mortality through implementation of AMTSL.

DNP prepared advanced practice clinicians are uniquely poised to develop curriculum using the COPA model. The multifaceted approach of the theoretical framework requires the qualities exemplified by the DNP role essentials: organizational and systems thinking,

leadership, collaboration, clinical scholarship and analytical methods to promote scientific evidence –based practice and the scientific underpinnings for practice. DNPs entering the higher education system as nursing faculty can look to the COPA model as an ideal framework for exploration of contemporary practice and for setting educational expectations for proficient healthcare providers.

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Appendix A

Core Skills and Abilities Required of a Skilled Birth Attendant (WHO, 2004)

Core skills and Abilities

- Communicate effectively cross culturally in order to be able to provide holistic "women-centered" care. To provide such care skilled attendants will need to cultivate effective interpersonal communication skills and an attitude of respect for the woman's right to be a full partner in the management of her pregnancy, childbirth and the postnatal period.
- In pregnancy care, take a derailed history by asking relevant questions, assess individual needs. Give appropriate advice and guidance, calculate the expected date of delivery and perform specific screening tests as required, including voluntary counseling and testing for HIV.
- Assist pregnant women and their families in making a plan for birth (i.e. where the delivery will take place, who will be present and , in case of complication, how timely referral will be arranged)
- Educate women (and their families and others supporting pregnant women) in self-care during pregnancy, childbirth and the postnatal period.
- Identify illnesses and conditions detrimental to health during pregnancy, perform first line management (including performance of life saving procedures when needed) and make arrangements for effective referral.
- Perform vaginal examination, ensuring the women's and her/his own safety
- Identify the onset of labour
- Monitor maternal and fetal well being during labour and provide supportive care
- Record maternal and fetal well being on a partograph and identify maternal and fetal distress and take appropriate action, including referral where required
- Identify delayed progress in labour and take appropriate action including referral where appropriate
- Manage a normal vaginal delivery
- Manage the third stage of labour actively
- Assess the newborn at birth and give immediate care
- Identify any life threatening conditions in the newborn and take essential life saving measures including where necessary active resuscitation as a component of the management of birth asphyxia and referral where appropriate
- Identify haemorrhage and hypertension in labour, provide first line management (including life saving skills in emergency obstetric care where needed) ad if required, make an effective referral

- Supervise non skilled attendants, including traditional birth attendants where they exist in order to ensure that the care they provide during pregnancy, childbirth and early postpartum period is of sound quality and ensure continuous training of non skilled attendants
- Provide advice on postpartum family planning and birth spacing
- Educate women (and their families) on how to prevent sexually transmitted infections including HIV
- Collect and report relevant data and collaborate in data analysis and case audits
- Promote an ethos of shared responsibility and partnership with individual women and newborns throughout pregnancy, childbirth and the postnatal period

World Health Organization (2004). Making pregnancy safer: The critical role of the skilled attendant: A joint statement by WHO, ICM, and FIGO. World Health Organization Retrieved from: http://www.who.int/making_pregnancy_safer/documents/92415916692/en/index.html.

Appendix B:

Competency outcome statements organized by core practice competencies

Developed by Ryan (2011)

Core Practice Competency	Competency Outcome Statement	Standard
Assessment and Intervention Skills:	Incorporate Active Management of Third Stage of Labor (AMTSL) into routine management of a vaginal delivery.	WHO/ FIGO/ ICM definition of Skilled Birth Attendant, (2004), essential document
Communication skills	Document the AMTSL techniques that were used at delivery	ICM *Standards for basic midwifery practice*,(2002), update expected in 2011: Competency #4 Care during labor and birth: Record findings including what was done and what needs follow up.
Critical Thinking Skills	Create a plan that integrates AMSTL best practices when the most preferred techniques are not possible.	ICM *Standards for basic midwifery practice*, (2002), update expected in 2011: Competency #4 Care during labor and birth: Basic knowledge: Principles of AMTSL.
Human Caring and Relationship Skills	Works in partnership with the woman to implement AMTSL	ICM *Standards for basic midwifery practice*, (2002), update expected in 2011: Competency #1 Professional behaviors: Works in partnership

		with women and supports them in making informed choices about their health
Management Skills	Create a plan for assuring optimal storage conditions for uterotonic medications used in the practice setting.	ICM *Standards for basic midwifery practice*, (2002), update expected in 2011: Competency #1 Basic knowledge and skills: Ability to assemble, use, and maintain equipment and supplies appropriate to the practice setting
Leadership Skills	Explain the rationale and methods for utilization of AMSTL to peers and colleagues	ICM *Standards for basic midwifery practice*, (2002), update expected in 2011: Competency #1 Professional behaviors: Works collaboratively with other health workers to improve the delivery of services to women
Teaching Skills	Integrate concepts of AMSTL into prenatal patient teaching plan	ICM *Standards for basic midwifery practice*, (2002), update expected in 2011: Competency #1 Professional behaviors: Works in partnership with women and supports them in making informed choices about their health

Knowledge Integration	Provide care that incorporates universal precautions, infection control strategies and clean technique	ICM *Standards for basic midwifery practice*,(2002), update expected in 2011: Competency #1 Professional behaviors: Uses universal precautions, infection control strategy and clean technique

Appendix C

Critical elements for competency outcome statements with supporting documentation

Developed by Ryan (2011)

Critical Elements for Competency Outcome Statement #1:
Incorporate Active Management of Third Stage of Labor (AMTSL) into routine management of a vaginal delivery.

Prepare for Active Management

a. Prepare 10 International Units of oxytocin in a sterile syringe or have oxytocin in Uniject available

After delivery:

a. Immediately dry the infant using a clean cloth
b. Place the infant prone on the mother's abdomen..
c. Remove the cloth used to dry the baby
d. Keep the baby covered with a dry cloth while performing AMTSL
e. Breastfeeding may be initiated while AMTSL is being performed.

Administer a uterotonic agent within one minute of the birth of the baby

a. Palpate the abdomen, following delivery of the newborn , to rule out the presence of an additional fetus
b. After determining there is not an additional fetus, administer Oxytocin 10 International Units intramuscularly

Perform Controlled Cord Traction

a. At two to three minutes after the delivery of the baby or upon cessation of umbilical cord pulse (whichever is first), clamp the cord approximately 4 centimeters from the baby's abdomen.'
b. Gently milk the cord from the clamp toward the mother's perineum and place a second clamp approximately 2 centimeters toward the mother's perineum from the first.
c. Cut the umbilical cord between the two clamps.
d. Prepare for controlled cord traction by re-clamping the cord close to the woman's perineum and holding the cord and clamp in dominant hand.

e. If no clamp is available, wrap the cord around the dominant hand and grasp the cord near the woman's perineum.

f. Wait for a strong uterine contraction (2-3 minutes) while maintaining a slight tension on the cord.

g. Use the second, non dominant hand to palpate for uterine contractions and stabilize the uterus by applying counter-pressure during cord traction.

i. Gently palpate the uterine fundus through the abdominal wall to assess for onset of a contraction.

ii. When a strong contraction is palpated, move the nondominant hand to a suprapubic position

h. Recognize the onset of a strong uterine contraction through palpation and communication with the patient

i. Initiate controlled cord traction at the onset of a strong uterine contraction by gently and steadily pulling downward on the cord while applying counter pressure to the uterus with the suprapubic , nondominant hand (Push-Pull technique)

j. Maintain controlled cord traction for 30 to 40 seconds throughout the uterine contraction or until the placenta is delivering.

k. Repeat controlled cord traction and counter pressure with the next strong contraction until placenta delivers or 30 minutes have passed.

Deliver the placenta

a. Move the suprapubic hand to the perineum as the placenta delivers, and with both hands, support and rotate the placenta gently until the membranes are twisted.

b. Slowly and steadily pull use an up and down motion to complete delivery of placenta

Perform uterine massage

a. Immediately massage the fundus of the uterus through the abdomen with one hand until the uterus is contracted

b. Palpate for a contracted (firm) uterus every 15 minutes for two hours after delivery

c. Repeat uterine massage if uterus becomes soft (relaxed)

Once the uterus is contracted (firm), examine the placenta to ensure that none of it is missing

a. Hold the placenta in the palms of the hands with the maternal side facing upwards

b. Assess the presence and fit of all lobules

c. Hold the cord in one hand allowing the placenta and membranes to hang down.

d. Place the other hand inside the membranes and spread the fingers

e. Assess the completeness of the membranes

Complete routine postpartum care

a. Examine the lower vagina and perineum for lacerations.

b. Repair episiotomy or lacerations

c. Provide hygiene and comfort measures

d. Monitor woman and newborn

Supporting documents and comments for Competency Outcome Statement #1:
Incorporate Active Management of Third Stage of Labor (AMTSL) into routine management of a vaginal delivery

Prevention of postpartum hemorrhage: Implementing active management of the third stage of labor: A reference manual for health care providers. Seattle: PATH; 2007

World Health Organization (2007). *Recommendations for the prevention of postpartum hemorrhage*. Geneva, Switzerland: WHO Press.

McDonald & Middleton (2008). Effect of timing of umbilical cord clamping of term infants on maternal and neonatal outcomes. *Cochrane database of systematic reviews,* 16;(2):CD004074.

Comments: Complete discussion of techniques for delivery, newborn assessment and early initiation of breastfeeding is beyond the scope of this curriculum. The basic technique for management of the newborn after delivery is included in order to illustrate the integration of AMTSL into routine care and early initiation of breastfeeding. Management of retained placenta or placental fragments in addition to routine postpartum care including repair of episiotomy or lacerations is beyond the scope of this curriculum

Critical Elements for Competency Outcome Statement #2:
Document the AMTSL techniques that were used at delivery

Identify and complete the documentation requirements in place at the institution where the practitioner is providing AMTSL

In the absence of institutional documentation requirements, write a narrative or bullet point summary that documents the use of AMSTL techniques including:

a. Uterotonic medication used, dosage, route, site and timing of administration
b. Initiation of uterine massage
c. Use of controlled cord traction
d. Assessment of the placenta
e. General condition of mother

Critical Elements for Competency Outcome Statement #3:
Create a care plan that integrates AMSTL best practices when oxytocin is not available.

Identify uterotonics other than oxytocin used in practice setting:

a. Ergotomin(methylergometrine), also known as ergonovine (methylergonovine) Trade names: Methergine, Ergotrate, Ergotrate Maleate,
b. Syntometrine (a combination of oxytocin and ergometrine)
c. Misoprostel (Cytotec)

Utilize available resources to identify dosage and administration recommendations for the available uterotonic.

a. Ergotomin: 0.2mg intramuscularly but contraindicated in women with history of hypertension, heart disease, ecclampsia, or preeclampsia; common side effects nausea vomiting, headaches and hypertension
b. Syntometrine: 1 ml intramuscularly but contraindicated in women with history of hypertension, heart disease, ecclampsia, or preeclampsia; common side effects nausea vomiting, headaches and hypertension
c. Misoprostel : 600 micrograms orally, sublingually (or per rectum) No known contraindications; common side effects shivering and elevated temperature

In the absence of oxytocin, will

a. Administer ergometrine 0.2mg IM after the birth of the baby for a patient who has no history of hypertension, ecclampsia, or preeclampsia OR
b. Administer misoprostel 600 micrograms orally (or per rectum) after the birth of the baby OR
c. Administer syntometrine 1 ml intramuscularly after the birth of the baby for patient who has no history of hypertension, ecclampsia, or preeclampsia

Performs physiologic management of the third stage in absence of uterotonics.

a. Clamp and cut cord at 2-4 minutes after delivery
b. Initiate immediate skin to skin contact

c. Facilitate early initiation of breastfeeding

d. Await signs of placental separation

i. Umbilical cord lengthens

ii. Small blood loss

iii. Uterus firm and globular on palpation

e. Deliver placenta within 1 hour of delivery by maternal effort alone

f. Uterine massage after delivery of the placenta

Supporting documents and comments for Competency Outcome Statement #3:
Create a care plan that integrates AMSTL best practices when oxytocin is not available

Burke, C (2010). Active versus expectant management of third stage of labor and implementation of a protocol. *Journal of Perinatal and Neonatal Nursing*, *24*, (3), 215-228. Wolters Kluwer Health, Lippincott Williams and Wilkins.

Leduc, D., Senikas, V., Lalonde, A., Ballerman, C., Biringer, A., Delaney, M., Duperron, L., Girard, I., Jones, D., Lee, L., Shepherd, D., Wilson, K.; Clinical practice obstetrics committee; Society of obstetricians and gynaecologists of Canada (2009). Active management of the third stage of labour: Prevention and treatment of postpartum hemorrhage. *International Journal of Gynecology and Obstetrics* (2010), *108,* 258-267. doi:101016/j.ijgo.2009.11.002

Mansouri & Asahly (2010). Rectal versus oral misoprostol for active management of third stage of labor: a randomized controlled trial. *Achieves of Gynecology and Obstetrics.* Published online. doi: 10.1007/s00404-010-1466-5

Prevention of postpartum hemorrhage: Implementing active management of the third stage of labor: A reference manual for health care providers. Seattle: PATH; 2007.

Critical Elements for Competency Outcome Statement #4:
Works in partnership with the woman to implement AMTSL

Describe AMTSL to patients using easily understandable language

a. Present important points first. For example:

Women can die or become very sick if there is too much bleeding after having a baby.

b. Organize complex ideas into understandable parts. For example:

We want to do three things to keep you from bleeding too much after your baby is born. After your baby is born we want to

1. Give you a shot of medication
2. Help the afterbirth come out quickly by pushing on your stomach and pulling gently on the cord. This is sometimes uncomfortable.
3. Rub your belly to help you make cramps that keep you from bleeding. We will want to keep checking and rubbing for two hours after you have your baby

Women who have these three things done, bleed much less than women who have nothing done.

c. Define technical terms and use simple terminology, using the same words as the patient when possible

d. Use the active voice

Obtain patient's verbal consent when initiating each step of AMTSL. For example:

Do I have permission to (Is it ok for me to:)

a. give you a shot to help keep you from bleeding too much?

b. to press on your stomach and help the afterbirth come out by pulling on the cord?

c. rub on your belly to make you cramp and keep you from bleeding too much?

Supporting documents and comments for Competency Outcome Statement #4:
Works in partnership with the woman to implement AMTSL

Bowser, D. & Hill, K. (2010).Exploring evidence for disrespect and abuse in facility-based childbirth: Report of a landscape analysis. Harvard School of Public Health. Retrieved from: http://www.tractionproject.org/sites/default/files/upload/RFA/Respectful%20Care%20at%20Birth%209-20-101%20Final.pdf

Foster, I. & Lasser, J. (2011) *Professional ethics in midwifery practice*. Sudbury, MA: Jones & Bartlett.

Prevention of postpartum hemorrhage: Implementing active management of the third stage of labor: A reference manual for health care providers. Seattle: PATH; 2007

United States Department of Health and Human Resources (n.d.). Quick Guide to Health Literacy as described in Servellen, G. (2009). *Communication skills for the healthcare professional: Concepts, practice and evidence.* Sudbury, MA: Jones & Bartlett.

Critical Elements for Competency Outcome Statement #5:
Create a plan for assuring optimal storage conditions for those uterotonic medications used in the practice setting:

1. Oxytocin: Check manufacturer's recommendation: some oxytocin is produced to be more heat stable, temporary storage at maximum 30°C for no more than three months. If possible keep refrigerated at 2-8°C. Follow expiration dates.
2. Ergotomin: Store in the dark, keep refrigerated at 2-8°C in closed container and protect from freezing. Follow expiration dates.
3. Misoprostol: Store at room temperature in closed container, protect from humidity. Follow expiration dates.
4. Syntometrine: Store in the dark, keep refrigerated at 2-8°C in closed container and protect from freezing. Follow expiration dates.

Supporting documents and comments for Competency Outcome Statement #5:
Create a plan for assuring optimal storage conditions for those uterotonic medications used in the practice setting:
Prevention of postpartum hemorrhage: Implementing active management of the third stage of labor: A reference manual for health care providers. Seattle: PATH; 2007

Critical Elements for Competency Outcome Statement #6.
Explain the rationale and methods for utilization of AMSTL to peers and colleagues

Explain the rationale and methods for utilization of AMSTL to peers and colleagues including the following points:

a. Postpartum hemorrhage remains the leading cause of death in low resource countries.
b. Uterine atony (insufficient contraction of the uterus) is the most common cause of postpartum bleeding.
c. Active management of third stage significantly reduces the risk for post partum hemorrhage.
d. Active management of third stage incorporates:
    i. Administration of a uterotonic agent after delivery of baby
    ii. Controlled cord traction to deliver the placenta
    iii. Uterine massage
e. WHO , FIGO and ICM recommend that all women be offered AMTSL by SBAs.

Supporting documents and comments for Competency Outcome Statement #6.
Explain the rationale and methods for utilization of AMSTL to peers and colleagues

Khan, K., Wojdyla, D., Say, L., Gulmezoglu, A., Van Look, P. (2006). WHO analysis of causes of maternal death: A systematic review. *Lancet 367*: 1066-1074. doi:10.1016/S0140-6736(06)68397-9

Oladapo, O., Fawole, A., Loto, O., Adegbola, O., Akinloa, O., Alao, M., & Adeyemi, A. (2009). Active management of third state of labour: A survey of provider's knowledge in southwest Nigeria. *Archives of Gynecology and Obstetrics*, *280*, 945-952 .doi:10.1007/s00404-009-1036-x

Rajan, P & Wing, D. (2010). Postpartum hemorrhage: Evidence-based medical interventions for prevention and treatment. *Clinical Obstetrics and Gynecology*, *53*,(1), 165-181.Retrieved from: http://ovidsp.tx.ovid.com.proxy.lib.ohio-state.edu/sp-3.4.1b/ovidweb.cgi?WebLinkFrameset=1&S=OHJHFPLMOFDDKBLBNCCLPDDCHOGIAA00&returnUrl=ovidweb.cgi%3f%26TOC%3dS.sh.15.16.19.22%257c18%257c50%26FORMAT%3dtoc%26FIELDS%3dTOC%26S%3dOHJHFPLMOFDDKBLBNCCLPDDCHOGIAA00&directlink=http%3a%2f%2fgraphics.tx.ovid.com%2fovftpdfs%2fFPDDNCDCPDLBOF00%2ffs047%2fovft%2flive%2fgv024%2f00003081%2f00003081-201003000-00018.pdf&filename=Postpartum+Hemorrhage%3a+Evidence-based+Medical+Interventions+for+Prevention+and+Treatment.&link_from=S.sh.15.16.19.22%7c18&pdf_key=B&pdf_index=S.sh.15.16.19.22

Comment: Oladapo, et al. (2009) found that colleagues are the primary information source about active management of third stage among obstetric provider survey respondents (N=361)in Nigeria.

Critical Elements for Competency Outcome Statement #:7.
Integrate concepts of AMSTL into prenatal patient teaching plan

Describe AMTSL to patients using easily understandable language

a. Present important points first
b. Organize complex ideas into understandable parts
c. Define technical terms and use simple terminology, using the same words as the patient when possible
d. Use the active voice
e. Use storytelling to describe AMSTL and how it can save lives

Supporting documents and comments for Competency Outcome Statement #:7.

Integrate concepts of AMSTL into prenatal patient teaching plan
Klein, Miller & Thomson (2009) *A book for midwives: Care for pregnancy, birth and women's health* Hesperian Foundation Berkeley, California *Prevention of postpartum hemorrhage: Implementing active management of the third stage of labor: A reference manual for health care providers*. Seattle: PATH; 2007 United States Department of Health and Human Resources (n.d.). Quick Guide to Health Literacy as described in Servellen, G. (2009). *Communication skills for the healthcare professional: concepts, practice and evidence.* Sudbury, MA: Jones and Bartlett.
Critical Elements for Competency Outcome Statement #8: **Provide care that incorporates infection control principles**
Use personal protective equipment including face protection, apron, closed toed shoes and high level disinfected or sterilized gloves routinely while performing AMTSL. Dispose of used needles in a puncture resistant container Maintain aseptic technique when preparing injection
Supporting documents and comments for Competency Outcome Statement #8: **Provide care that incorporates infection control principles**
Prevention of postpartum hemorrhage: Implementing active management of the third stage of labor: A reference manual for health care providers. Seattle: PATH; 2007. Tietjen, L., Bossemeyer, D.,& MacIntosh, N. (2003). *Infection prevention: Guidelines for healthcare facilities with limited resources*. Baltimore, Maryland: JHPIEGO.

Appendix D

Curriculum Components for Content Expert Review

Background and theoretical model

The purpose of this paper is to provide, for expert review, components of a pilot competency-based educational curriculum for active management of third stage of labor (AMTSL) for skilled birth attendants (SBAs). The components are structured around the framework of Lenburg's (1999) Competency Outcomes and Performance Evaluation model and based on the core skills and abilities for SBAs as described by a joint statement by the World Health Organization (WHO), International Confederation of Midwives (ICM) and International Federation of Obstetricians and Gynecologist (FIGO) (World Health Organization, 2004). According to the joint statement (WHO, 2004), all SBAs must have the skills and abilities to manage third stage of labor actively.

The Competency Outcomes, Performance Assessment (COPA) Model is a theoretical curriculum framework to promote competence for clinical nursing practice (Lenburg, Klein, Abdour-Rahman, Spencer & Boyer, 2009). Within the framework, there are three major concepts relating to this project: Core Practice Competencies, Competency Outcome Statements and Critical Elements.

According to Lenburg (1999), there are eight "universal" core practice competencies around which all nursing knowledge and skills can be clustered. These are: assessment and intervention skills, communication: skills, critical thinking skills, human caring and relationship skills, teaching skills, management skills, leadership skills and knowledge integration. These core practice competencies were used in this project in conjunction with internationally

recognized standards to organize AMTSL into curriculum components that are worded as "Competency Outcome Statements". Competency Outcome Statements are clearly worded statements that describe the expectations for real clinical practice (Lenburg et al, 2009). These statements delineate what the practitioner must actually be able to do at the completion of the course. The Competency Outcome Statements are found in Part 1.

Critical elements are the discrete, observable behaviors that are mandatory to carry out the desired competency outcome (Lenburg, 1999). Critical elements in this curriculum are derived from current evidence for best practice. Competency outcome statements and their associated critical elements are located in Part 2.

Suggestions for the reviewer

Because of your experience and expertise in international maternal health, you have been asked to provide feedback regarding the content of this AMTSL curriculum. Based on the COPA model (Lenburg, 1999), there are two questions which will direct your review:

3. Do the outcome competency statements and critical elements reflect all of the essential competencies required for AMTSL?
4. Are the competency statements and critical elements written to most effectively articulate performance expectations?

A structured template follows each section of the curriculum. Click on your choice of responses to indicate your answer. There is an area provided for comments. The blocks will expand to accommodate the entry of text.

To answer question one, please review the competency outcome statements and critical elements for completeness and relevance to actual AMTSL practice requirements. If you agree that the competency statements and critical elements are complete, choose the "yes" response. If

you think that there is a competency statement or critical element missing from the curriculum, please choose the "no" response and provide feedback as to the missing component in the comments section. Make sure to "save" or your responses will be lost.

To answer question two, please review the wording of each competency statement and critical element to determine if it is written to clearly articulate the desired outcome. A four point scale is provided for you to indicate the extent of your agreement that the competency statements and critical elements are written effectively. If "Not at all", "Somewhat", or "Moderately" is chosen, please provide feedback as to how the wording can be improved in the comment section.

Please save the completed form and return as an email attachment. Results of the panel review and a copy of the final document will be shared with you.

Thank you for your valuable opinion.

Part 1: Competency Outcome Statements organized by Core Practice Competencies:

Core Practice Competency	Competency Outcome Statement	Standard
Assessment and Intervention Skills:	1. Incorporate Active Management of Third Stage of Labor (AMTSL) into routine management of a vaginal delivery.	WHO/ FIGO/ ICM definition of skilled birth attendant, (2004), essential document
Communication skills	2. Document the AMTSL techniques that were used at delivery	ICM Standards for basic midwifery practice,(2002), update expected in 2011: Competency #4 Care during labor and birth: Record findings including what was done and what needs follow up.
Critical Thinking Skills	3. Create a plan that integrates AMSTL best practices when the most preferred techniques are not possible.	ICM Standards for basic midwifery practice, (2002), update expected in 2011: Competency #4 Care during labor and birth: Basic knowledge: Principles of AMTSL.
Human Caring and Relationship Skills	4. Works in partnership with the woman to implement AMTSL	ICM Standards for basic midwifery practice, (2002), update expected in 2011: Competency #1 Professional behaviors: Works in partnership with women and supports them in

		making informed choices about their health
Management Skills	5. Create a plan for assuring optimal storage conditions for uterotonic medications used in the practice setting.	ICM Standards for basic midwifery practice,(2002), update expected in 2011: Competency #1 Basic knowledge and skills: Ability to assemble, use, and maintain equipment and supplies appropriate to the practice setting
Leadership Skills	6. Explain the rationale and methods for utilization of AMSTL to peers and colleagues	ICM Standards for basic midwifery practice, (2002), update expected in 2011: Competency #1 Professional behaviors: Works collaboratively with other health workers to improve the delivery of services to women
Teaching Skills	7. Integrate concepts of AMSTL into prenatal patient teaching plan	ICM Standards for basic midwifery practice, (2002), update expected in 2011: Competency #1 Professional behaviors: Works in partnership with women and supports them in making informed choices about

		their health
Knowledge Integration	8. Provide care that incorporates universal precautions, infection control strategies and clean technique	ICM Standards for basic midwifery practice,(2002), update expected in 2011: Competency #1 Professional behaviors: Uses universal precautions, infection control strategy and clean technique

Reviewer Feedback for Competency Statements:

Do the competency outcome statements reflect all of the essential competencies required for AMTSL? ○ Yes ○ No If No, please provide comments:
Are the competency statements and critical elements written to most effectively articulate performance expectations? ○ Not at all ○ Somewhat ○ Moderately ○ Completely If Not at all, Somewhat, or Moderately is chosen, please provide comments.

Appendix E

Summary of Analysis of Comments Submitted by Expert Review Panel

1.Competency Outcome Statements organized by Core Practice Competencies	
Comment 1: Add safe sharps disposal to list of skills related to knowledge integration Comment 2: It was helpful to see that the critical elements of incorporating and implementing the practice follow so that correct injection technique, timing, etc is not assumed	**Analysis** 1. NA:Safe sharps disposal is included as a critical element under competency outcome #8 2. Expert insight
2.Critical Elements for Competency Outcome Statement #1: Incorporate Active Management of Third Stage of Labor (AMTSL) into routine management of a vaginal delivery (Part 1)	
(Related to the critical element" Breastfeeding may be initiated while AMTSL is being performed") : This might go against the evidence of delayed cord clamping, since it might be challenging to initiate BF if the cord is still attached	**Analysis** Suggestion for curriculum revision: needs clarified
3.Critical Elements for Competency Outcome Statement #1: Incorporate Active Management of Third Stage of Labor (AMTSL) into routine management of a vaginal delivery (Part 2)	
Related to palpating the uterine fundus for the presence of a contraction in preparation for controlled cord traction): be aware that this could lead to 'fiddling' with the uterus while waiting for a contraction – perhaps also include a warning to not massage the uterus – to reinforce that it is only a gentle touch to ensure the uterus is contracted.	**Analysis** Suggestion for curriculum revision: needs clarified Recurring theme: reviewer concern regarding uterine fundal pressure and uterine manipulation.
4.Critical Elements for Competency Outcome Statement #1: Incorporate Active Management of Third Stage of Labor (AMTSL) into routine management of a vaginal delivery (Part 3)	
(Related to the critical element "Slowly and steadily pull use an up and down motion to complete delivery of placenta") : This statement is not yet clear	**Analysis** Suggestion for curriculum revision: needs clarified
5.Critical Elements for Competency Outcome Statement #2: Document the AMTSL techniques that were used at delivery	
I'm wondering about TBAs [Traditional Birth Attendants]that can't read. Is there a way to articulate these performance expectations?	**Analysis** Recurring theme: learner characteristics/

	learning prerequisites
6.Critical Elements for Competency Outcome Statement #3: Create a care plan that integrates AMSTL best practices when oxytocin is not available (Part 1)	
Comment 1: I'm just wondering given the newer evidence re: misoprostol and active management and given it's stability and price – if it's not worth putting this drug at the top of the list? Comment 2: Just FYI, I have never heard anyone use this name [Ergotamin]. Anywhere I have worked, they have used ergometrine . Correct spelling for misoprostol	**Analysis** 1. NA: Not evidence based 2. Suggestion for curriculum revision: needs clarified/ correct spelling
7.Critical Elements for Competency Outcome Statement #3: Create a care plan that integrates AMSTL best practices when oxytocin is not available (Part 2)	
I would include the fundal massage even though it's not part of physiologic management – this is to be done in absence of uterotonics – but still worth including immediate massage (q15m until 2 hours pp).	**Analysis** NA: Fundal massage is included as a critical element for competency outcome #3 in association with physiologic management
8.Critical Elements for Competency Outcome Statement #4: Works in partnership with the woman to implement AMTSL	
Comment 1: (Related to the example of using simple language to explain AMTSL to the woman) again even in teaching I would not use language 'pushing on stomach' maybe pulling is accurate (re: cord). But again to not promote the fiddling of the uterus which can cause partial separation. I also think in these instances that simple drawings should also be used – visual learning is valuable in this case in terms of simplifying the message Comment 2: (Also related to the example of using simple language to explain AMTSL to the woman) Somehow this statement makes me nervous. Too similar to fundal pressure before birth perhaps! I can't think of a better description and wonder if it should be omitted	**Analysis** 1. Recurring theme: reviewer concern regarding uterine fundal pressure and uterine manipulation. Also: Suggestion for curriculum revision: needs clarified 2. Recurring theme: reviewer concern regarding uterine fundal pressure and uterine manipulation. Also: Suggestion for curriculum revision: needs clarified
9.Critical Elements for Competency Outcome Statement #5: Create a plan for assuring optimal storage conditions for those uterotonic medications used in the practice setting	
No reviewer comments	
10.Critical Elements for Competency Outcome Statement #6. Explain the rationale and methods for utilization of AMSTL to peers and colleagues	

Comment 1: I wonder if you should potentially quantify this (amount reduction in PPH) Comment 2: In some cases, discussing purchase and availability of the meds and who pays for them, requisition for staff access, may be necessary for administrative personnel.	**Analysis** 1. Suggestion for curriculum revision: needs clarified 2. Recurring theme: learner characteristics/ learning prerequisites
11.Critical Elements for Competency Outcome Statement #:7. Integrate concepts of AMSTL into prenatal patient teaching plan	
I love this section. It has nursing written all over it and is totally unrealistic. We can't even get midwives to take blood pressures or talk to the woman period! Much less tell them about AMTSL.	**Analysis** Expert Insight
12.Critical Elements for Competency Outcome Statement #8: Provide care that incorporates infection control principles	
Does this assume correct injection techniques, use of needles and syringes, choice of size of needle, have been taught	**Analysis** Recurring theme: learner characteristics/ learning prerequisites
Final comments: Good organization of how to incorporate the practice in a new setting. If we do every component of what we teach in that much detail we will have volumes to write but if we took each skilled birth attendant core ability and used that format… It would make a very credible package.	**Analysis** Expert Insight